

Universal Micro RFID Asset Tags



The Universal Micro measuring at 1 7/8" x 5/8" is a great solution to your identification projects that require a small RFID tag with great read range. With a tiny footprint and low profile (57 mils.), the Universal Micro RFID Asset Tag easily fits where other tags are too big and obtrusive.

Supplying up to 9 ft. of read range on metal and 4-5 ft. on plastic, wood and glass, the Micro provides incredible read ranges compared to other tags in its class. Its non-rigid, durable, foam core and polyester construction sets the Micro apart from molded RFID tags allowing for greater flexibility in tag placement.

Developed using the same premise as our original Universal RFID Asset Tag, the Universal Micro is a surface-independent using a patented inlay design and passive RFID technology to obtain excellent read ranges regardless of mounting surface.

Along with the Universal RFID Asset Tag, Universal RFID Hard Tag, and Universal Mini RFID Tag, these products make a revolutionary product line that allows you to use only one RFID tag for your asset tracking applications.

The Universal Micro also can be subsurface printed protecting any copy, logo and/or barcode against moderate solvents and caustics. Additionally, our four-color processing capabilities allow you to promote your company with a label that shows off your company's logo and style.



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Key Product Features

- Extremely small footprint and thin profile while still achieving excellent read range
- Custom engineered foam core designed specifically to obtain optimum read distances
- Patented inlay design provides excellent read ranges regardless of surface material—metal, plastic, glass, even wood
- Subsurface printing on durable polyester protects printed copy against moderate solvents and caustics/acids
- Digital printing process provides for greater print capability with detailed logos or special designs

Not sure what product you need?

Call our trained Experts

800-437-5283



*Read range differs by environment and reader type

Universal Micro RFID Asset Tag Specifications

Construction: Inlay wrapped around 39 mils custom engineered foam.

Label Copy: The label copy may include block type, stylized type, logos or other designs. All copy, block type, stylized type, logos, designs, and barcode are subsurface printed.

Colors: Standard colors include black, red, yellow, green and blue. Due to contrast needed for the barcode scanner, all bar codes are black.

Serialization: Barcode and human-readable equivalent are produced using the latest high-resolution digital technology available, which provides excellent clarity and easy scanning. Code 39 is the standard symbology with a range of 2.7 to 9.4 CPI (characters per inch). Optional linear and 2D symbologies available.

Programming: The barcode and human readable can be programmed into the RFID inlay as long as the information is in decimal or hexadecimal (A-F, 0-9) format. Metalcraft custom encodes your information to EPC and user memory banks. If desired, Metalcraft can encode information that differs from the barcode and human readable.

Locking: All Universal RFID tags are password locked. The password can be designated by Metalcraft, or, if desired, the customer can designate their own specific password.

Frequency: Custom designed UHF inlay uses Alien Higgs-EC chip optimized for use at 915 MHZ.

Standard Size: 1 7/8" x 5/8"

Standard Adhesive: Pressure-sensitive acrylic (MC778), .002" thick supported by a liner. Very high peel strength that provides excellent resistance to heat and chemicals. Withstands temperatures from -40°F to 400°F (intermittent). Shelf life of 24 months when stored at 72°F (22°C) and 50% relative humidity.

Shipment: 12 work days depending on order quantity and inlay availability.

To Order: Call **800-437-5283** and ask for an ID Specialist

Test Description

These tests were conducted for a limited period of time in strict laboratory conditions. In order to achieve maximum satisfaction we highly recommend that any customer considering use of this product test the labels in the environment in which they will be used.

High-temperature resistance test - These tags were attached to a sheet of glass at raised temperatures for 15 minutes. Tags were then removed from the oven and tested for readability immediately.

Temperature	RFID read test (Immediately out of oven)	Appearance of tags
200°F	Reads well	No change
300°F	Reads well	No change
400°F	Reads well	Slight curling at edge
500°F	Reads well	Tag destroyed

Low-temperature resistance test - The tags were attached to a sheet of glass and exposed to -40°F for 24 hours. Tags were then checked for readability with a Motorola handheld RFID reader. All samples were readable while at temperature just prior to removal from freezer. No tag construction defects were observed and adhesive still had a strong bond while in the freezer.

Chemical soak test - The Universal Micro tags were attached to a sheet of glass submerged in various chemicals. Observations were made at the following intervals: 2 hours, 24 hours, 48 hours. A Motorola handheld RFID reader as well as a handheld barcode reader were used to test the samples.

Length of Immersion	Water	Glass Cleaner	Bathroom Cleaner	Isopropyl Alcohol 99%	Acetone	NaOH pH 12.0	HNO ₃ pH 1.0	HCl pH 1.0	Brake Fluid
2 Hours	N.E.	N.E.	N.E.	AO	AO	N.E.	N.E.	N.E.	N.E.
24 Hours	N.E.	N.E.	N.E.	AO	TD	N.E.	N.E.	N.E.	N.E.
48 Hours	N.E.	N.E.	N.E.	AO	TD	N.E.	N.E.	N.E.	N.E.

N.E. = No Effect, AO = Adhesive Ooze, TD = Tag Delaminated

Impact resistance test - Impact test consisted of 10 pound cylindrical weight being dropped vertically from a height of 15.75". Tag samples were placed on concrete floor. A tag passed the test if the inlay still reads with Alien ALH-9000 handheld reader. All tags tested all were still readable after being subject to impact with a 10 lb. weight dropped from a vertical distance of 15.75".

Read range test - In many cases the tags read intermittently for longer distances than those indicated, however, the results reported below were for continuously responding reads.

Universal Micro Anechoic Chamber Results					
Sample Average	METAL	WOOD	GLASS	PLASTIC	CARDBOARD
	9 feet	5 feet	5 feet	4 feet	4 feet